a plurality of field windings disposed in each of the field winding slots, at least two of the field windings are comprised of:

an outer jacket; and

a plurality of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined therebetween; and

circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages; and

impregnant disposed in the slots to seal the spaces between adjacent outer jackets and between the outer jackets and walls of the slots.

REMARKS

Claims 2-13 are present in the instant application. In the most recent Office Action, Claims 1, 7-9, and 13 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Pat. No. 518,946 to Forbes (hereinafter, "Forbes"). Claims 2-6 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Forbes in view of U.S. Pat. No. 4,227,108 to Washizu, et al. (hereinafter, "Washizu"). Claims 10 and 12 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Forbes in view of U.S. Pat. No. 3,287,580 to Broniewski, et al. (hereinafter, "Broniewski"). The Office Action also objects to Claim 12 and the abstract for minor informalities.

By the above amendment, Claim 12 has been corrected as suggested by the Examiner. Further, the Abstract has been revised to conform to proper style. Applicants respectfully submit that the objections have been obviated and kindly request favorable reconsideration and withdrawal thereof.

Applicants respectfully traverse all other rejections, for at least the reasons set forth below. As amended above, Claim 1 has been cancelled and Claims 7-9 and 11 have been amended to depend from Claim 2. With respect to claim 13, this claim recites a rotating machine comprising, *inter alia*, a stator having a plurality of field winding slots a plurality of field windings disposed in each of the field winding slots, the plurality of field windings comprising an outer jacket only partially contiguous with walls of the field winding slots. There is no teaching or suggestion by Forbes that the outer jacket is partially contiguous with the field winging slots. Therefore, Applicants respectfully submit that Claim 13 is patentably distinguished over Forbes, and kindly requests that the rejection be reconsidered and withdrawn.

Claim 2 recites a rotating machine comprising, *inter alia*, a housing having a cavity for acceptance of the stator, the housing and stator defining first and second plenums at first and second ends of the stator, coolant entering the rotating machine into the first plenum and exiting the rotating machine from the second plenum. The Office Action concedes these features are neither taught nor suggested by Forbes, and offers Washizu, averring that it would have been obvious to one of ordinary skill in the art to modify Forbes and provide it with the configuration of Washizu "for the purpose of providing a connection between the external fluid conduits and the internal fluid conduits."

"The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some **objective teaching** in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine*, 837

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (Citations omitted) (emphasis added). In this case, there is no objective teaching to support the alleged motivation to modify the references. Forbes teaches at some length and detail, in Figs. 2, 3, 7 and 8, and their accompanying descriptions, a means for connecting between the internal and external cooling fluid paths. It is not for want of any teaching that an artisan of ordinary skill would look to modify Forbes. Further, Washizu is completely silent as to any advantages or benefits that flow from the use of annular compartments 26. Applicants concede that some combination of Forbes and Washizu may have been at most 'obvious to try', a standard long rejected by the courts as not constituting obviousness. *See, Id.*

Because Forbes teaches detailed means for connecting between the internal and external fluid paths, and Washizu lacks any teaching or suggestion of any benefits that flow from its configuration, Applicant respectfully submits that the alleged motivation to combine the two references is only a motivation when viewed in hindsight of the Applicants' own disclosure. It is, of course, impermissible "To imbue one of ordinary skill in the art with knowledge of the invention ... when no prior art reference or references of record convey or suggest that knowledge, ... to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 312-313 (Fed. Cir. 1983). Because the prior art references lack any teaching or suggestion to motivate their combination, Applicant respectfully submits that the rejection of Claim 2 is poorly taken. Claims 3-9 and 11 are each separately patentable, but are submitted as patentable for at least the same reasons as Claim 2, from which they

directly or indirectly depend. Favorable reconsideration and withdrawal of the rejection of Claims 2-9 and 11 is kindly requested.

Claim 10 recites a rotating machine comprising, *inter alia*, a plurality of field windings, at least two of the which are comprised of an outer jacket and a plurality of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined therebetween; wherein the conductive wires are wound within the outer jacket to form helical shaped longitudinal passages. The Office Action concedes these features are neither taught nor suggested by Forbes, and offers Broniewski.

However, Broniewski does not ameliorate this deficiency of Forbes relative to Claim 10. In contrast to the claimed invention, Broniewski teaches that "These wires... are twisted together in a way that the bar has a certain rigidity, which may be increased by impregnating it with a thermo-setting resin filling the interstices between the individual wires." (Col. 2, lines 2-9). Initially, the tight twisting to increase rigidity differs from the claims, which recites that the conductive wires are would to form helical shaped longitudinal passages. The tight twisting of Broniewski to increase rigidity would not provide for passages as claimed.

Moreover, in the context of an obviousness rejection including a combination of references, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *See, W.L. Gore & Associates, supra.* In this case, Broniewski teaches the minimizing, through winding, or elimination, through impregnant, of all space between adjacent conductors. This is in direct contrast to the claimed invention, which provides helical cooling

passages in the space between adjacent wound conductors and an outer jacket. Broniewski provides separate cooling passages (3) radially outward of the conductors (1). These passages (3) are not taught or suggested to be helical, and are provided irrespective of the configuration of the conductors within the outer jacket.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *See, In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Because the combination of Forbes and Broniewski do not meet the claimed invention, and further because the teachings of Broniewski in combination with Forbes leads an artisan of ordinary skill away from the claimed invention, Applicants respectfully submit that Claim 10 is patentably distinguished over Forbes and Broniewski, taken alone or in any combination. Favorable reconsideration and withdrawal of the rejection of Claim 10 is kindly requested.

Claim 12 recites a rotating machine comprising, *inter alia*, a stator having a plurality of field winding slots, a plurality of field windings disposed in each of the field winding slots, at least two of the field windings comprised of an outer jacket, and impregnant disposed in the slots to seal the spaces between adjacent outer jackets and between the outer jackets and walls of the slots. In contrast to the claimed invention, Broniewski teaches only an impregnant between adjacent conductors **within** the outer jacket (6). This does not meet the terms of the claimed invention. *See, In re Royka, supra.*

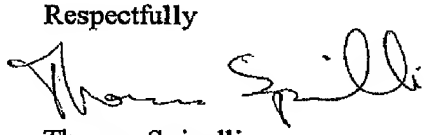
Moreover, assuming, *arguendo*, that some combination of Forbes and Broniewski could meet the claimed invention, providing impregnant within the outer jacket and between adjacent conductors as taught by Broniewski would block the Forbes

cooling passages and frustrate the purpose of Forbes' apparatus. It has been decided by the courts that "If when combined, the references 'would produce a seemingly inoperative device,' then they teach away from their combination." *Tec Air Inc. v. Denso Manufacturing Michigan Inc.*, 192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999).

Therefore, because no combination of Forbes and Broniewski can meet the claimed invention, and further because the proposed combination of Forbes and Broniewski would result in an inoperable device, Applicant respectfully submits that Claim 12 is patentably distinguished over the references, and the rejection is poorly taken. Favorable reconsideration and withdrawal is kindly requested.

In light of the foregoing, Applicants respectfully submit that all claims recite patentable subject matter, and kindly solicit an early indication of allowability. If the Examiner has any reservation in allowing the claims, and believes a telephone interview would advance prosecution, he is kindly requested to telephone the undersigned at his earliest convenience.

Respectfully



Thomas Spinelli
Registration No. 39,533

Scully, Scott, Murphy & Presser
400 Garden City Plaza
Garden City, New York 11530
(516) 742-4343

TS/DJT:eg

Appln No. 09/894,114

In The Abstract:

The Abstract has been amended as follows:

ABSTRACT OF THE DISCLOSURE

A rotating machine [is provided] which includes a stator having a number of field winding slots[;], a number of field windings disposed in each of the field winding slots, at least two of the field windings have an outer jacket; and a number of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined between the conductive wires[;]. [and circulation means for circulating]A pump circulates a coolant into and from the rotating machine through the longitudinal passages. Preferably, the rotating machine [further]includes a housing[which] that has a cavity for acceptance of the stator therein. The housing and stator define first and second plenums at first and second ends of the stator. The coolant enters the rotating machine into the first plenum and exits the rotating machine from the second plenum.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Claims:

The claims have been amended as follows:

2. (Amended) [The rotating machine of claim 1, further comprising] A rotating machine comprising:

a stator having a plurality of field winding slots;

a plurality of field windings disposed in each of the field winding slots, at least two of the field windings are comprised of:

an outer jacket; and

a plurality of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined therebetween;

circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages; and

a housing, the housing having a cavity for acceptance of the stator therein, the housing and stator defining first and second plenums at first and second ends of the stator, the coolant entering the rotating machine into the first plenum and exiting the rotating machine from the second plenum.

7. (Amended) The rotating machine of claim [1] 2, wherein each of the plurality of field windings has the outer jacket and longitudinal passages.

8. (Amended) The rotating machine of claim [1] 2, wherein the outer jacket is a flexible elastomer.

9. (Amended) The rotating machine of claim [1] 2, wherein the plurality of conductive wires disposed within the jacket are circular in cross-section.

10. (Amended) [The rotating machine of claim 9] A rotating machine comprising:

a stator having a plurality of field winding slots;

a plurality of field windings disposed in each of the field winding slots, at least two of the field windings are comprised of:

an outer jacket; and

a plurality of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined therebetween; and

circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages, wherein the conductive wires are wound within the outer jacket to form helical shaped longitudinal passages.

11. (Amended) The rotating machine of claim [1] 2, wherein the outer jacket comprises at least one film disposed over the conductive wires.

Appln No. 09/894,114

12. (Amended) [The rotating machine of claim 1, further comprising inpregnant]A rotating machine comprising:

a stator having a plurality of field winding slots;

a plurality of field windings disposed in each of the field winding slots, at least two of the field windings are comprised of:

an outer jacket; and

a plurality of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined therebetween; and

circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages; and

impregnant disposed in the slots to seal the spaces between adjacent outer jackets and between the outer jackets and walls of the slots.